WE CLAIM:

1.   An optical film comprising:

        a layer of simultaneous biaxially stretched polyolefin film being substantially non-absorbing and non-scattering for at least one polarization state of visible light; and having x,
5   y, and z orthogonal indices of refraction wherein at least two of the orthogonal indices of refraction are not equal, an in-plane retardance being 100 nm or less and an absolute value of an out-of-plane retardance being 55 nm or greater.

2.   The optical film according to claim 1, wherein the polyolefin comprises
10   polypropylene, polyethylene, polybutylene, cyclic olefin polymer, poly(4-methyl-1-pentene), or mixtures thereof.

3.   The optical film according to claim 1, wherein the polyolefin comprises polypropylene.
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4.   The optical film according to claim 1, wherein the in-plane retardation is less than 85 nm.

5.   The optical film according to claim 1, wherein the in-plane retardation is from 20 nm
20   to 50 nm.

6.   The optical film according to claim 1, wherein the in-plane retardation is from 50 nm to 100 nm.

25   7.   The optical film according to claim 1, wherein the absolute value of the out-of-plane retardation is greater than 150 nm.

8.   The optical film according to claim 1, wherein the absolute value of the out-of-plane retardation is greater than 200 nm.
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9.   The optical film according to claim 1, wherein the layer has a thickness of 15 micrometers to 40 micrometers.

10.   The optical film according to claim 1, wherein the layer has a length and a width of at least 0.65 meter and the in-plane and out-of-plane retardance are substantially uniform across the length and width.

11.   The optical film according to claim 2, further comprising a nucleating agent.

12.   The optical film according to claim 2, further comprising a tackifier.

13.   An optical film comprising:

a layer of simultaneous biaxially stretched polymer film being substantially non-absorbing and non-scattering for at least one polarization state of visible light; and having x, y, and z orthogonal indices of refraction wherein at least two of the orthogonal indices of refraction are not equal, an in-plane retardance being 100 nm or less and an absolute value of an out-of-plane retardance being 55 nm or greater and a length and width of at least 0.65 meter and the in-plane and out-of-plane retardance are substantially uniform across the length and width.

14.   The optical film according to claim 13, wherein the layer of simultaneous biaxially stretched polymer film width and length is at least 1.3 meter.

15.   The optical film according to claim 13, wherein the layer of simultaneous biaxially stretched polymer film width and length is at least 1.5 meter.

16.   The optical film according to claim 13, wherein the in-plane retardance changes less than 4 nm/cm along the width and length of the layer of simultaneous biaxially stretched polymer film.

17.   The optical film according to claim 13, wherein the in-plane retardance changes less than 2 nm/cm along the width and length of the layer of simultaneous biaxially stretched polymer film.

5   18.   The optical film according to claim 13, wherein the in-plane retardance changes less than 1 nm/cm along the width and length of the layer of simultaneous biaxially stretched polymer film.

19.   The optical film according to claim 13, wherein the polymer comprises a polyolefin, a
10   polyester, a polyacrylate, a fluoropolymer, or mixtures thereof.

20.   The optical film according to claim 13, wherein the polymer comprises polypropylene.

21.   The optical film according to claim 13, wherein the polymer comprises a polyester, a
15   copolyester, or mixtures thereof.

22.   The optical film according to claim 13, wherein the polymer comprises a polymethacrylate, a poly(vinylidene fluoride), or mixtures thereof.

20   23.   The optical film according to claim 13, wherein the layer has a thickness of 15 micrometers to 40 micrometers.

24.   The optical film according to claim 13, further comprising a nucleating agent.

25   25.   The optical film according to claim 13, further comprising a tackifier.

26.   An optical film comprising:
    a layer of simultaneous biaxially stretched polymer film being substantially non-absorbing and non-scattering for at least one polarization state of visible light; and having x,
30   y, and z orthogonal indices of refraction wherein at least two of the orthogonal indices of

refraction are not equal, an in-plane retardance being 100 nm or less and an absolute value of an out-of-plane retardance being 55 nm or greater and a thickness of 10 micrometers to 50 micrometers.

5   27.   The optical film according to claim 26, wherein the layer of simultaneous biaxially stretched polymer film has a thickness of 15 micrometers to 40 micrometers.

28.   The optical film according to claim 26, wherein the layer of simultaneous biaxially stretched polymer film has a thickness of 15 micrometers to 25 micrometers.

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29.   The optical film according to claim 26, wherein the polymer comprises a polyolefin, a polyester, a polyacrylate, a fluoropolymer, or mixtures thereof.

30.   The optical film according to claim 26, wherein the polymer comprises polypropylene.

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31.   The optical film according to claim 26, wherein the polymer comprises a polyester, a copolyester, or mixtures thereof.

32.   The optical film according to claim 26, wherein the polymer comprises a

20   polymethacrylate, a poly(vinylidene fluoride), or mixtures thereof.

33.   The optical film according to claim 26, further comprising a nucleating agent.

34.   The optical film according to claim 26, further comprising a tackifier.

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35.   The optical film according to claim 26, wherein the layer has a length and a width of at least 0.65 meter and the in-plane and out-of-plane retardance are substantially uniform across the length and width.